

PATENT  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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ROLAND K. BOWLER II

In re application of

MISZCZAK ET AL.

Appl. No. 09/227,242

Filed 8 January 1999

For: "Ultra Low Carbon Metal-Core Weld Wire"

)  
) Atty. Docket No. 8313

)  
) Examiner M. E. [unclear]

)  
) Art Unit 1725

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37 CFR 1.111 TRANSMITTAL

Assistant Commissioner for Patents  
Washington D.C. 20231

SIR:

The following is enclosed in response to the non-final Official Action of  
26 July 2002:

- ☒ [ X ] Response under 37 CFR 1.111 (8 pages);  
☐ [ ] Petition for an extension of time under 37 CFR 1.136; and  
☐ [ ] Authorization to debit Deposit Account No 02-3290 in the  
amount of XX.XX for the fees calculated below.

MISZCZAK ETAL.  
"Ultra Low Carbon Metal-Core Weld Wire"  
Atty. Docket No. 8313

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FEE Calculation			Rate	Fee
Total Claims	37 CFR 1.16(c)	0 in excess of 20.	\$ 18.00	\$ 00.00
Independent Claims	37 CFR 1.16(b)	0 excess of 3.	\$ 80.00	\$ 00.00
Appeal Brief	37 CFR 1.192		\$ 0.00	\$ 00.00
Petition Fee	(37 CFR 1.136(a))	(0) Month	\$ 0.00	\$ 00.00
TOTAL FEES				\$ 00.00

### AUTHORIZATION TO DEBIT DEPOSIT ACCOUNT

The Commissioner for Patents & Trademarks is hereby authorized to debit any additional fees required under 37 C.F.R. 1.16 and 1.17 from, and to credit any excess fees paid herewith to, Deposit Account No. 02-3290 of the undersigned in connection with the papers presented herewith.

Respectfully submitted,

ROLAND K. BOWLER II 23 AUGUST 2002  
REG. NO. 33,477

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## PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of )  
MISZCZAK ET AL. ) Atty. Docket No. 8313  
Appl. No. 09/227,242 ) Examiner M. Elve  
Filed 8 January 1999 ) Art Unit 1725  
For: "Ultra Low Carbon Metal-Core Weld Wire"

## RESPONSE UNDER 37 CFR 1.111

Assistant Commissioner for Patents  
Washington D.C. 20231

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Request for Consideration, Claim Status

The Official action of 26 July 2001 has been considered carefully.  
Reconsideration of the claimed invention in view of the discussion below is  
5 respectfully requested.

Claims 1 and 3-27 are pending.

Response To Rejection Under 35 USC 112, Second para.

10 Claims 9-10, 12-13, 16, 23-24 and 26-27 stand rejected on new grounds  
under 35 U.S.C. 112, second paragraph. The Examiner asserts that it is unknown  
whether the "... combinations of Fe-Mn Fe-Si, Fe-Ti and Fe-Mn-Si ... are merely  
combined or compounds."

15 The examiner's asserted confusion about the distinction between

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5 "combined or compounds" is not clear. A combination of elements is generally referred to as a compound. Nevertheless, the referenced claim limitations are compounds, as indicated by linkage of the elements, namely, Fe-Si, Fe-Mn, Fe-Ti and Fe-Mn-Si. The rejection under 35 U.S.C. 112, second paragraph, is ~~that~~ improper and should be withdrawn.

Allowability of Claims Over Nagarajan

10 Claims 1, 3, 5, 9-10, 12-13 and 16 stand rejected under 35 U.S.C. § 102, and in the alternative for obviousness under 35 USC 103, in view of U.S. Patent No. 5,824,992 (Nagarajan). The Examiner's rejection of Claims 1, 3, 5, 9-10, 12-13 and 16 is premised on the incorrect assumption that the composition of Nagarajan is "... physically the same ..." as that of the claimed subject matter.

15 Regarding Claim 1, the Examiner notes that Nagarajan discloses a metal core weld wire having a steel sheath with a carbon content between 0.005 % and 0.150 %. Claim 1 however recites a carbon steel sheath having

20 ... a carbon content less than 0.005 % C ...."

25 Contrary to the examiner's contention, the composition of the weld wire of Claim 1 is not physically the same as the composition disclosed by Nagarajan, since it is "less" than the quantity disclosed by Nagarajan. The weld wire of Nagarajan therefore cannot have the same properties as the weld wire of Claim 1, and thus Nagarajan does not disclose a weld wire having a reduced fume generation rate.

There is no disclosure or suggestion in Nagarajan to further reduce the

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carbon content of the weld wire the "... less than 0.005 % C ...." Nagarajan  
concerned with reducing oxygen content, not with fume reduction. *In re Antonie*, 195  
USPQ 6, 9 (C.C.P.A. 1977) (Failure to recognize a result-effective variable or range  
outside a known range is an exception to the rule of the presumption of  
obviousness.). Claim 1 and the claims that depend therefrom are thus patentable over  
Nagarajan and in condition for allowance.

Regarding Claim 3, Nagarajan does not disclose or suggest "... the total  
weight of the metal-core weld wire comprises not more than approximately 0.013 %  
C" in combination with the limitations of Claim 1. Claim 3 is thus patentably  
distinguished over Nagarajan for at least the same reasons as Claim 1, discussed  
above.

Regarding Claim 5, Nagarajan does not disclose or suggest "... the steel  
sheath comprises between approximately 0.35 % Mn and approximately 0.45 % Mn"  
in combination with the limitations of Claim 1. Claim 5 is thus patentably  
distinguished over Nagarajan for at least the same reasons as Claim 1, discussed  
above.

Regarding Claims 9, 10, 12-13 and 16 generally, Nagarajan fails to  
disclose or suggest metal-core weld wires having a core composition with the various  
combinations of one or more of the compounds: "Fe-Mn", "Fe-Si", "Fe-Mn-Si" and  
"Fe-Ti". Contrary to the Examiner's suggestion, the disclosure by Nagarajan of the  
elements Mn, Fe, Si and Ti in isolation is not the same as the compounds "Fe-Mn",  
"Fe-Si", "Fe-Mn-Si" and "Fe-Ti" recited in the Claims 9, 10, 12, 13 and 16.  
Additionally, the Examiner's computational yields for the Fe-Mn, Fe-Mn-Si and Fe-Ti  
compounds based upon the isolated elements of Mn, Fe, Si and Ti in Nagarajan has  
absolutely no basis in the prior art and is of doubtful validity, since elements in  
isolation are not equivalent to compounds, which generally possess properties

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different than the constituent elements.

Regarding Claim 9, Nagarajan does not disclose or suggest in combination with the limitations of Claim 1, the metal-core composition comprising "... between approximately 1.23 % Fe-Mn and approximately 1.56 % Fe-Mn."

5 Regarding Claim 10, Nagarajan does not disclose or suggest, in combination with the limitations of Claim 1, the metal-core composition comprising "... between approximately 2.40 % Fe-Si and approximately 3.60% Fe-Si, between approximately 10.86 % Fe-Mn-Si and approximately 16.30 % Fe-Mn-Si, between approximately 0.44 % Fe-Ti and approximately 0.66 % Fe-Ti, and the balance Fe powder."

10 Regarding Claim 12, Nagarajan fails to disclose or suggest, in combination with the limitations of Claim 1, the metal-core composition comprising "... between approximately 17 % and approximately 19 % of a total weight of the metal-core weld wire, and the metal-core composition comprising not more than approximately 1.62 % Fe-Mn."

15 Regarding Claim 13, Nagarajan fails to disclose or suggest, in combination with the limitations of Claim 1, the metal-core composition comprising "... not more than approximately 3.15% Fe-Si, not more than approximately 14.26 % Fe-Mn-Si, not more than approximately 0.58 % Fe-Ti, and the balance Fe powder."

20 Regarding Claim 16, Nagarajan fails to disclose or suggest, in combination with the limitations of Claim 1, the metal-core composition comprising "... approximately 18 % of a total weight of the metal-core weld wire, and the metal-core composition comprises approximately 3.00 % Fe-Si, approximately 13.58 % Fe-Mn-Si, approximately 0.55 % Fe-Ti, approximately 1.54 % Fe-Mn, and the balance Fe powder."

25 Claims 9, 10, 12, 13 and 16 are therefore believed to be further

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distinguished over Nagarajan and also in condition for allowance.

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Discussion of Presumption Rebuttal And  
Affidavit Under 37 C.F.R. § 1.132

10 Claims 8, 11 and 15 also stand rejected for obviousness under 35 USC  
103 in view of Nagarajan. The Examiner contends that the proximity of the range of  
0.005 - 0.150 % C in Nagarajan is sufficiently close to the range of "... not more than  
approximately 0.0047 % C..." in Claim 8 and "... not more than approximately 0.0046  
% C..." in Claim 11 and 15 to state a prima facie case of obviousness. A similar  
argument is assumed to apply to Claim 1, which recites a carbon content "... less than  
0.005 % ...", less than the lower limit disclosed by Nagarajan.

15

To the extent that the Examiner's citation of Nagarajan states a prima  
facie case of obviousness, due to the proximity of the lower limit of the carbon range  
disclosed therein to the upper limit of the carbon content recited in the claims,  
Applicants reply and Affidavit under 37 CFR 1.132 overwhelmingly rebut the  
presumption.

20

As noted above, there is no disclosure in Nagarajan to further reduce  
the carbon content of the weld wire the "... less than 0.005 % C ..." Nagarajan is  
concerned with reducing oxygen content, not with fume reduction. There is no  
recognition in Nagarajan of a relationship between reduced fume production and  
reduced carbon content. On this basis alone, the Applicants contend that the  
25 Examiner's presumption is improper. *In re Antonie*, 195 USPQ 6, 9 (C.C.P.A. 1977)  
(Failure to recognize a result-effective variable or range outside a known range is an  
exception to the rule of the presumption of obviousness.).

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5 Assuming, arguendo, that the presumption of obviousness is proper,  
the failure of Nagarajan or any other prior art of record to recognize the relation  
between reduced fume production and reduced carbon content in metal core weld  
wires favorably supports Applicants position that it would not have been obvious to  
reduce the carbon content below the range disclosed by Nagarajan to the ranges  
recited in the claimed inventions.

10 Evidence of secondary considerations must always be considered when  
assessing claims under 35 USC 103. *Cable Elec. Prods., Inc. v. Genmark, Inc.* 226  
USPQ 881, 887 (Fed. Cir 1985); See MPEP §§ 716.01(d) and 2144.08. Yet the Examiner  
appears not to have given any weight to the Affidavit submitted under 37 CFR 1.132,  
as the Examiner offers no discussion thereof in connection with the rejection under  
35 USC 103 or Applicants' rebuttal of the presumption of obviousness.

15 The subject Affidavit establishes a nexus between the subject matter of  
the claimed inventions and the commercial embodiments thereof, and particularly  
that the claimed inventions are the subject matter of commercial success.

20 The attached Affidavit and supporting factual evidence establish that  
the subject matter of the claimed inventions overcome problems in the art; namely,  
low fume producing metal-core weld wires that comply with industry strength and  
toughness specifications. The low fume weld wires of the present invention were  
developed partly in response to industry demand, and address problems heretofore  
unsolved by others.

25 The affidavit and supporting evidence also establish that the metal-core  
weld wires of the present invention are commercially successful. Particularly, the  
sales of low fume metal-core weld wires of the present invention were substantial  
upon introduction thereof into the marketplace because they substantially reduced  
fumes without loss of performance characteristics, which is what industry required.



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5 The Affidavit and supporting evidence establish further that the commercial success is attributable to the claimed invention. Particularly, the metal-core weld wires are commercially successful because they have reduced fume production without loss of performance. *Applied Materials Inc. v. Advanced Semiconductor Material Am. Inc.*, 40 USPQ2d 1481, 1486 (Fed. Cir. 1986)(All embodiments within the claims need not be commercially successful.). Particularly relevant to the commercial success of the present invention is the fact that, for at least one large customer's applications, the metal-core weld wires of the present invention substantially displaced the use of flux-core weld wires, which generate substantial amounts of fumes.

10 The remarks above especially when taken in consideration with the enclosed Affidavit under 37 CFR 1.132 overwhelmingly defeat the Examiner's tenuous allegations of obviousness in view of Nagarajan. *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992) (The ultimate determination of patentability must be based on consideration of the entire record, by preponderance of evidence, with due  
15 consideration to the persuasiveness of any arguments and any secondary considerations.). See MPEP §§ 716.01(d) and 2144.08.

20 In view of the discussion above, it is submitted that all pending claims of the present application are now in condition for allowance. Kindly withdraw any rejections and objections thereto and allow the claims of the present application to issue as a United States Patent.

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In view of the discussion above, it is submitted that all pending claims of the present application are now in condition for allowance. Kindly withdraw any rejections and objections thereto and allow the claims of the present application to issue as a United States Patent.

Respectfully submitted,

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